UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,467	12/04/2003	Joerg Ulrich Fontius	P03,0554	7491

7590 04/28/2008

SCHIFF HARDIN & WAITE
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, IL 60606

EXAMINER	
RAHMJOO, MANUCHER	
ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
04/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,467	FONTIUS, JOERG ULRICH	
	Examiner	Art Unit	
	MIKE RAHMJOO	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *48-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *48-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 48- 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman (US Patent 6006126) in view Neff et al (US PAP 2002/ 0180728), hereinafter, Neff and further in view of of Nissen (US PAP 2003/ 0001869).

As per claim 48 Cosman implicitly teaches a volumetric 3D monitor which shows the 3D volumetric visualization (i.e., fig. 8- 10 and 16 and the *three dimensional representation of image scan data*. Col. 25 line 40 also teaches *3D volumetric views on computer graphic workstation display*) surrounded by an associated surface or surfaces (i.e., boney anatomy of fig. 16) on which a reference point (i.e., points 1040 1041 1044 and 1046 of fig, 16) is definable with respect to said 3D visualization (i.e., 3D volumetric visualization in col. 25 line 40) shown by the monitor corresponding to for example column 25;

Cosman teaches a selection unit (corresponding to physical coordinate detection system of fig. 12a) to select a reference point (corresponding to any points such as 920, 922, 926, or 928 of the skull) on the surface or surfaces relative to the 3D volumetric

visualization on the 3D monitor of the three dimensional data set selected by the user (corresponding to the selection of the points on a visualization of the patient's head on an XYZ (i.e., 3D) coordinate system) see for example column 19 lines 40- 67 and fig. 12a. The perimeter 932 illustrate a 3D cube crosses said points;

a direction unit to specify a direction (corresponding to coordinate system XYZ of 12a) from said reference point to said point being selected by the user in the 3D volumetric visualization on the volumetric 3D monitor corresponding to for example column 19 lines 40- 67 and fig. 12a wherein the coordinates are registered or known relative to the coordinate system (i.e., specifying the directions).

However, Cosman does not explicitly teach a volumetric 3D monitor which shows the 3D volumetric visualization surrounded by associated surface or surfaces on which a reference point is definable with respect to said 3D visualization.

Neff teaches teach a volumetric 3D monitor (fig. 1- 3 and the 3D hybrid screen) which shows the 3D volumetric (i.e., 3D seismic data) visualization surrounded by associated surface or surfaces (i.e., flat wall, a wraparound, or various combinations of flat walls, with or without a floor or a dome shaped ceiling in [0069]). Fig. 8- 10 and [0069] teach the flow chart of importing 3D data (i.e., points) which to be visualized to provide the 3D seismic data volume which utilizes said 3D hybrid screen (I.e., volumetric 3D monitor).

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Neff into Cosman to facilitate viewing on four commonly used screen types including: a flat wall, multiple adjacent flat

walls, a concave semidome, and a semi-cylindrical wraparound screen which are combined into a single screen referred to herein as a "hybrid" screen therefore use multiple projectors to project adjoining images on adjacent sections of a large wraparound screen so that observers can view objects with depth perception in 3D space see for example [0022] and [0007].

Cosman does not teach a distance unit to set a distance value from said reference point along said direction to said point being selected in the visualization.

Nissen teaches a distance unit (i.e., image window tool of fig. 1) to set a distance value from said reference point along said direction to said point being selected in the visualization (corresponding to for example determination of distance and direction from the reference point from the sensor point of which an input is read) see for example [0016].

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Nissen into modified device of Cosman so as to provide the reference points being visualized on the screen so that the user can visually see which point is being used for calculation of the resizing, therefore when one corner of the screen defines the reference point and as the user touches the screen in order to resize the object, the distance and direction between the touch point and this reference point is calculated for resizing and visualizing the resized object which adds to the efficiency and marketability of the device see for example [0020- 25].

As per claim 49 Cosman teaches said surface or surfaces (i.e., 3D volumetric views) is virtual corresponding to for example col. s5 line 40.

As per claim 50 Cosman teaches the selection unit comprises a positioning unit to position the reference point on the surface or surfaces(corresponding to points 834,836,838,840) and a sensor (detectors 800 and 798), the sensor registering a position of the reference point on the surface or surfaces corresponding to for example fig. 9A wherein the detector system tracks the position of the probe and the probe tip and has a basis of data, e.g. "knows," when the probe touches these points.

As per claim 51 Cosman teaches wherein the selection unit comprises a mouse, and a movement of the mouse (corresponding to the use of a mouse) registered by the mouse corresponding to a movement of the reference point on the surface or surfaces corresponding to for example col. 17 lines 60- 65.

As per claim 52 Cosman teaches wherein the direction unit comprises a level tiltable (joystick and the tiltable level) in a direction and a sensor, the sensor registering a tilting of the level in the direction corresponding to for example col. 17 lines 60- 65.

As per claim 53 Cosman teaches wherein the direction unit comprises a joystick tiltable in two directions(joystick with inherent tilting) , tilting of the joystick unambiguously specifying two angles for direction specification corresponding to for example col. 17 lines 60- 65.

As per claim 55 Cosman teaches wherein the selection unit and the direction unit comprise a pointer wand whose position and orientation specify

at least one of the reference point and the direction with respect to the visualization corresponding to for example col. 15 lines 60- 67 wherein the probe (unit 808) has a tip or position or virtual tip 814 which may touch off a point of an arbitrary nature 834 (corresponding to reference point).

As per claim 56 Cosman teaches wherein at least one of the position and orientation of the pointer wand is measurable by means of ultrasonic elapsed-time measurements corresponding to for example. Col. 26 lines 35- 40 wherein the ultrasonic probe may send out the ultransonic signal, may receive the reflected ultransonic signal and determine a time delay between sending and receiving so as to determine the distance,

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified device of Cosman further in view of Taft (US Patent 6169537).

As per claim 54 the modified device of Cosman does not teaches the joystick Is structurally connected with a mouse.

However, Taft teaches the joystick Is structurally connected with a mouse corresponding to for example fig. 2a units 12 (joystick movable in XY directions) and 30 (conventional mouse).

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings Taft into Cosman to have a mouse assembled into joystick to partially overcome particular concern the awkward and unnatural hand position required to hold and control a computer mouse and

therefore avoid great discomfort if a mouse is used for hours at a time and in extreme instances, serious hand and/or wrist injury, such as the infamous and debilitating carpel tunnel syndrome see col. 1 lines 30 – 40.

Claims 57- 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified device of Cosman further in view of Sekiguchi et al (US PAP 2002/ 060665).

As per claim 57 Cosman does not teach at least two ultrasonic transmitters, and the input system additionally comprises a receiving unit to receive ultrasonic signals and a synchronization unit to synchronize the ultrasonic transmitters and the receiving unit.

Sekiguchi teaches at least two ultrasonic transmitters, and the input system additionally comprises a receiving unit to receive ultrasonic signals and a synchronization unit (see for example claim 9 for the synchronization unit) to synchronize the ultrasonic transmitters and the receiving unit corresponding to for example [0144] wherein two ultrasonic transmitters may be attached to the receiving unit.

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Sekiguchi into Cosman to provid a coordinate input apparatus capable of making a coordinate input from a plurality of input planes and when the line connecting the two ultrasonic receivers is perpendicular to the input plane, the distances from the input device in the input plane

to the two ultrasonic receivers exist in a plurality of sets and therefore the sufficiently practicable coordinate input device can be provided for precision and efficiency of the device see [0012].

As per claim 58 Sekiguchi teaches wherein the synchronization unit is connected by a radio connection with the ultrasonic transmitters of the pointer wand corresponding to for example [0144].

As per claim 59 Sekiguchi teaches at least two ultrasonic reflectors (corresponding to R1,R2 receiving the ultrasonic transmitted from the input unit 4), and the input system additionally comprises an ultrasonic transmitter, a receiving unit to receive ultrasonic signals, and a synchronization unit to synchronize an ultrasonic transmitter and a receiving unit corresponding to for example [0056]. Cosman also teaches light source in forms of various sources as reflectors see the abstract.

As per claim 60 Sekiguchi teaches wherein the ultrasonic reflectors are designed such that they reflect an ultrasonic pulse with at least one of different strength and with characteristic pulse form, depending on a frequency of the ultrasonic pulse corresponding to for example fig. 7 and the ultrasonic pulse form.

As per claim 61 Sekiguchi broadly teaches wherein the distance unit comprises a rotatable small wheel (corresponding to unit 17) and a sensor to detect rotation corresponding to for example fig. 4a.

As per claim 62 Sekiguchi broadly teaches wherein the input system also

comprises a button to actuate a signal corresponding to for example personal computer 1 with on and off button.

As per claim 63 Sekiguchi an output unit to output a signal that comprises preferred information about at least one of the reference point, the direction and the distance value corresponding to for example claim 4 and the input and output coordinates or directions.

Response to Arguments

Applicant's arguments with respect to claims 48- 63 have been considered but are moot in view of the new ground(s) of rejection.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is 571-272-7789. The examiner can normally be reached on 8 AM- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Rahmjoo

April 11, 2008

/Matthew C Bella/

Supervisory Patent Examiner, Art Unit 2624